HAND CARE PLAN FOR HEALTHCARE WORKERS

Improved adherence to hand hygiene practices and multidisciplinary approaches to skin health may significantly impact patient outcomes and employee health. Maintenance of intact, healthy skin reduces the risk of transmission of pathogenic organisms and the risk of occupationally related skin disease. Understanding the key components of an effective hand-care plan and implementing a therapeutic regime are fundamental components of any patient and employee safety program.

Hand washing and hand antisepsis

When hands are visibly dirty or contaminated with proteinaceous material or visibly soiled with blood or other body fluids, wash with water and either a non-antimicrobial soap or an antimicrobial soap.

1. When washing hands with soap and water:
    - Wet hands first with water
    - Apply the amount of product recommended by the manufacturer to hands
    - Follow the 6-step hand washing technique

2. Rinse hands thoroughly to remove all residual soap.

3. Dry hands with disposable single-use towels ensuring that the all skin and spaces between fingers are thoroughly dry without excessive friction.

4. If hands are not visibly soiled, an alcohol-based hand rub can be used for routinely decontaminating hands (Exception: after contact with a patient with Clostridium difficile or Norovirus, hands must be washed with soap and water).

Concerns

- Frequent and repeated use of hand hygiene products are the primary causes of irritant contact dermatitis and may result in a denatured stratum corneum and transepidermal water loss (TEWL) and thus compromise skin barrier function.
- Alcohol-based products may cause dryness and irritation of the skin.

Recommendations:

- Select hand hygiene products with low irritancy potential (e.g. Dermol® - requires approval for use by Occupational Health).
- Perform hand hygiene before glove donning and after glove removal.
- Follow manufacturer's recommendations for appropriate use of all products.

Dermal hydration and moisturisation

Preventing dry skin and reducing the risk of dermal irritation and contact dermatitis should be the goal of every health-care employer and employee. Skin moisturisers are used to help prevent skin from becoming dry and to restore dry skin to its normal condition. The HSE (2007) recommends that health-care workers be provided with products that will minimise the occurrence of irritant dermatitis associated with hand antisepsis or hand washing.

Concerns

- Not all lotions, moisturisers and creams are compatible with hand hygiene products.
- Hydrocarbon-based products are not compatible with natural rubber latex or synthetic polyisoprene gloves (products containing mineral oil petrolatum or lanolin are hydrocarbon based products).

Recommendations

- Use products with therapeutic glycerine-containing moisturisers to heal dry skin.
- Water-based lotions are preferred when wearing latex gloves.
- Do not use highly fragranced, over-the-counter products in the clinical setting (these are not approved for use as medical products).

Appropriate glove usage

Some individuals may experience a dermal reaction in response to either the chemicals in the formulation of natural rubber or synthetic gloves or to the protein allergens in natural rubber latex gloves.

Concerns

- Repeated donning and removal of multiple pairs of gloves may cause a friction-related irritation across the dorsum of the hands.
- Prolonged wear may result in skin occlusion and either dryness or maceration.

Recommendations

- Follow the Trust policy and report any dermatological symptoms to Occupational Health.
- Select gloves with low irritancy potential.
- Perform hand hygiene before glove donning and after glove removal.
- Follow manufacturer's recommendations for appropriate use of all products.

Occupational Skin Conditions in Health care workers

Dermal reactions may manifest as irritations, contact dermatitis, a chemical delayed Type IV sensitivity or allergy or a protein immediate Type I sensitivity or allergy. Most dermal reactions are irritations or contact dermatitis, and can be treated and managed by improved hand hygiene, skin care and appropriate glove selection.

1. Irritations (irritant dermatitis, contact dermatitis), non-allergic disease

Caused by an agent that, when used locally, produces more or less local inflammatory reaction, including anything that induces or gives rise to irritation. Irritations are non-immunological responses.

Signs and Symptoms

Acute: Dry, itching, flaking, redness, burning, local inflammation and possible pain
Chronic: Dry, crusty hard bumps, sores, fissures and cracks

Etiology

- Hand hygiene products, soaps, hand antiseptic agents, surgical hand antiseptics or alcohol-based antiseptics
- Mechanics of repeated hand washing or scrubbing
- Gloves, glove chemicals, glove lubricants and donning agents
- Seasonal and weather related (cold and dry climate)
- Transepidermal water loss associated with repeated hand washing
- Emotional stress
- Inappropriate hand care
- Inappropriate glove usage

Management

- Identify and remove causative agent
- Allow hands to completely heal
- Practice daily hand care
- Use products that support a total skin-care programme

Recommendations

- Adhere to the Trust's glove policy. Do not use latex gloves unless working in an area where the use of latex gloves has been assessed as necessary.
- Do not assume that the glove is the only causative agent.
- Attempt to identify and rule out other probable causes, such as the recent introduction of a new hand hygiene product.
- Use moisturising, rehydrating products that are approved by Infection Control.
- Understand the potential cause and effect of products used outside of the work environment, including bath soaps, dish soaps, scented products, etc.

2. Chemical allergy: Type IV hypersensitivity

Signs and symptoms

Itching, drying, redness, crusting, thickening of skin, hard bumps, sores, papules, vesicles. Signs and symptoms may spread up the arm beyond the border of the glove.

Potential causes or predisposers

- Glove chemicals: accelerators, preservatives, colorants, other additives
- Poison ivy, poison oak
- Soaps, detergents, disinfectants
- Individuals with chronic eczema
- Individuals who have other allergies

Management

- Identify and remove causative agent.
- Allow hands to heal. (Occupational health will be involved in any modification of duties)
- A dermatology appointment will arranged by Occupational Health.
- Glove selection: Nitrile, synthetic or one that is designed with reduced concentrations of chemical accelerators (Refer to the Trust's latex policy).

3. Protein allergy: Type I hypersensitivity

Signs and symptoms

Local: Moist, pink, raised hives or urticaria, often blanched in centre.
Systemic: May produce swollen eyelids or face or respiratory distress; rarely progresses to anaphylaxis.

Potential causes or predisposers

- Natural rubber latex protein allergen
- Individuals who are atopic or have a history of allergy or clinical reactivity
- Individuals with asthma
- Possible cross-reactivity to certain food allergies: avocado, banana, chestnut, kiwi and other fruits and vegetables

Management

- Identify and remove causative agent.
- Seek advice from Occupational Health.
- Glove selection: Refer to trust's latex policy.

Recommendations

- If you suspect that you may be sensitive to latex protein allergen, seek advice from Occupational Health.

Early intervention, good hand care and adherence to the Trust's policy on glove use and infection control should reduce the incidence of occupational skin conditions. Contact Occupational Health on 8554 as soon as possible if any symptoms become evident.

References:

CDC (Centers for Disease Control) (2002) Boyce JM and Pittet D, **Guidelines for Hand Hygiene in Health-Care Settings**: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. *MMWR Recommendations and Reports* **51** (RR-16)

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